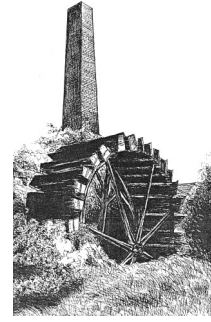


WANDLE INDUSTRIAL MUSEUM



BULLETIN



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WANDLE INDUSTRIAL MUSEUM

PRESIDENT

Harry Galley

TRUSTEES

Chair: Fr David Pennells, Nicholas Hart, John Hawks and John Harding.

OPERATIONS TEAM

Alison Cousins, Eric Shaw, Roger Steele, and Michael Taylor.

Editorial

Spring is just around the corner. Hopefully warmer weather and no need to worry about running up the heating bill!

Our walks programme for this year is in place. See page 9. These are an opportunity to discover the wonderful heritage of the Wandle Valley.

The museum, like many other organisations, is grateful for the help of our volunteers and, of course, our members who help make the work we do worthwhile. Thank you to everyone for your support.

I hope you enjoy this issue of the bulletin and, as always, please let us have any feedback.

Mick Taylor (Guest Editor)

Cover Picture:

Please see article on page 8.

Photos:

P2 Smeaton portrait, engraving by W Holl after portrait by Mather Brown. Numerous printed and online sources.

P2 The waterwheels of John Smeaton: Paul N Wilson, *The Waterwheels of John Smeaton*, The Newcomen Society Transactions 30, 1955-57; page 28.

P4 Iron Axle: *John Smeaton FRS*, Ed AW Skempton, Thomas Telford Ltd, 1981. Page 66.

P4 Carshalton Paper Mill, Wandle Industrial Museum.

Operations Team And Archives Report

We had a successful visit from Acorn School in late November and held our usual lunchtime get-together for our regular volunteers in mid-December.

The annual New Year lunch at Park Place Mitcham was slightly better attended and despite a few hiccups on the catering side was enjoyed by all including three Trustees.

There is already a steady demand for our talks, especially with Mick Taylor having added to his repertoire.

We looked at visitor numbers for last year, which were very erratic. We were only open for a couple of weeks in December. The first couple of months of this year have been encouraging. This could be due to an increase in the regular pattern of home working leading to people having a greater flexibility in their lives or an influx of new residents.

The team met in early February to set out the calendar for the rest of the year both for our own events and to plan our participation in other local activities.

Acquisitions

We bought a framed etching of a very unusual view of the Wandle at Wandsworth by Edgar Wilson. Seeing sailing ship masts in the vicinity of the Wandle is a rare view.

We were sent an article on the Wandle by a local priest, Ian Tattum, which gives a quite unique interpretation and received a very detailed book by Derek Bradford published by the Carshalton and District

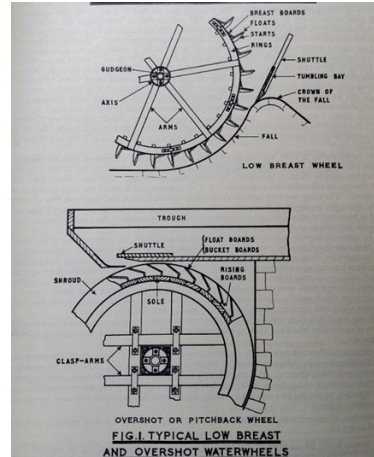
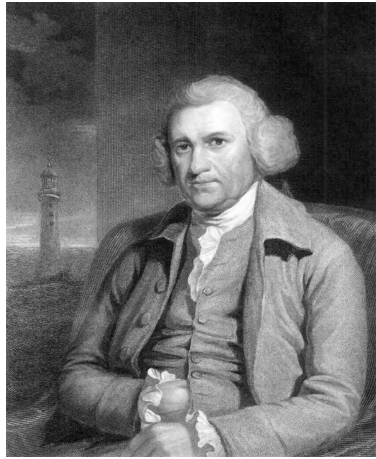
History and Archaeology Society titled "The Mills of the Upper Wandle".

Alison Cousins



The River Wandle millwork of John Smeaton

John Smeaton (1724-92) is best known as the earliest of the great British civil engineers, but his work on the efficiency of waterwheels and his pioneering use of cast iron marked a step change in mill technology.



Smeaton's earliest Wandle commission in 1768-69 was by George Shepley and Hugh Mears of the **Upper Mills**, Garratt Lane, on a site now occupied by the Southside shopping centre. Smeaton designed two low breast waterwheels, 14ft in diameter and 5ft and 7ft wide, with a head of 4ft 8in, to drive these corn mills. The previous waterwheels had been undershot, and Smeaton probably lengthened the mill pond to increase the head of water.

The property description changed in 1782 from two separate corn mills to "two water corn mills in one building". Smeaton probably advised on the changes, as he is known to have corresponded with Shepley family members between 1768 and 1789. It has been claimed that another great engineer, John Rennie, rebuilt the mill around 1818 for Daniel Watney, but there is no record of this in the Rennie archive. This mill became known as the Eastern Mill, or Mill A.

In 1789 George Shepley commissioned Smeaton to design a new oil mill on the **Upper Mills** site. Smeaton proposed a 16ft by 7ft low breast wheel, with a cast iron axis and some cast iron gearing. Subsequently a new building straddling a bypass channel a little to the south-west of the main mill was insured as an oil mill in 1791. This later became known as Mill B. It was converted to corn milling in the 1820s.

Mill A was an impressive stone-built building, but it was destroyed by fire in 1926. The brick and weather-boarded Mill B continued in operation but flour production ceased before the war. The building was

put to various other uses before being demolished in 1962.

George Shepley engaged Smeaton in 1778, to design a new waterwheel for **Hackbridge Mills, Carshalton**, just below the confluence of the Croydon and Carshalton branches of the Wandle. Smeaton produced drawings for an 18ft by 3ft 6in low breast waterwheel to operate machinery for an oil mill on a head of 7ft 3in. An oil mill was duly insured in 1779. There was also a leather mill on the site and the oil mill supplied linseed oil for the leather-making process. According to a writer in 1789, the mills burned down in 1783 and had since been rebuilt. Smeaton does not appear to have been consulted on the rebuilding, although his work might have been reused.

In 1779 Smeaton advised James Henckell of **Adkins Mill, Wandsworth**, at that time an iron mill, to reposition the 17ft 6 in waterwheel as a low breastshot rather than an undershot wheel, by elevating the “crown of the fall” and thereby the head of water. Smeaton described the mill as an “iron hoop mill”, implying that it used a rolling mill to manufacture hoops for barrels, or to connect lengths of hollowed-out wooden water pipe. Later, the mill was said to have produced cannons used at the Battle of Trafalgar. Smeaton also designed machinery for the mill, and is known to have designed boring machines for cannon manufacture. The mill site is now the “Big Yellow” storage facility on Garratt Lane.

In 1780 Smeaton proposed two options to John Hilbert for his **Upper Mill, Carshalton**: two low-breast wheels measuring 18ft in diameter by 6ft wide, or two overshot wheels measuring 7ft 4 in diameter and 7ft 6 wide, to operate on a head of about 8ft. Hilbert opted for the overshot waterwheels. Smeaton also designed a cast iron water wheel axle. Hilbert and Smeaton met in September 1783, together with the millwright James Cooper, to discuss the construction of the mill. This mill’s insurance value subsequently doubled from £1,000 to £2,000.

The Upper Mill was sold in 1887 and the building was demolished and replaced by water-powered electricity generators which were in use up to around 1924. It is unlikely that Smeaton’s wheel lasted until 1924, but his waterwheel pits and central spillway survive in Grove Park, and are the last remaining parts of Smeaton’s Wandle mills.

In 1788/79 Smeaton produced a design for a new overshot waterwheel 8ft 2in in diameter and 6ft 2in wide for Hilbert’s **Waddon Mill, Croydon**. The insurance value of this corn mill increased from £800 in 1783 to

£1800 in 1791, indicating that substantial work had been undertaken. An auction notice in 1819 indicated that the mill had three overshot waterwheels: it is not clear whether these followed Smeaton's design.

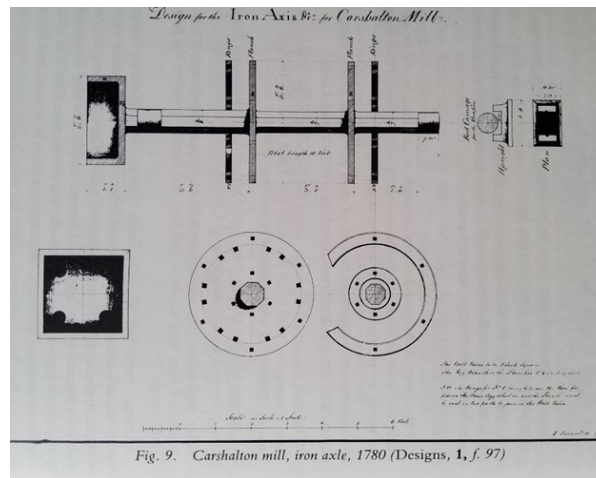


Fig. 9. Carshalton mill, iron axle, 1780 (Designs, 1, f. 97)

Smeaton designed a new low breast waterwheel measuring 15ft by 7ft for William Curteis of the **Paper Mill, Carshalton**, in 1789. (below) The mill was rebuilt the following year, and it is reasonable to suppose that the new design was incorporated in the reconstruction.



To conclude with a caveat: there is little hard evidence that Smeaton's Wandle mill designs were executed. Instead we rely on the fact that the designs exist and that the relevant property or insurance records changed shortly after the designs were produced. We can safely assume that George Shepley and John Hilbert were satisfied with Smeaton's work because they re-engaged him. Indeed Hilbert commissioned a portrait of him, now lost.

John Sheridan

Editor Note: A fuller version of this article with more information on the research John has done on the Wandle waterwheels of Smeaton and fellow civil engineer John Rennie will shortly be available on our website: <https://wandle.org/exhibitions/researchmaterials.html>

The Vanguard Way



Many readers of the Bulletin may be unaware that the Wandle Trail extends to East Croydon Station, though its final three quarters of a mile might be considered something of an anti-climax, along busy shopping streets. But this provides a link to the Vanguard Way, which starts at the station and runs for 66 miles to Newhaven, signed by its 'VGW' logo.

Launched in 1981, the Vanguard Way has built up an enviable reputation for its wonderful scenery, mostly off-road, using footpaths, bridleways and byways, through a national park and two areas of outstanding natural beauty, and passing many items of interest. Although most of the route is in fairly gentle terrain, there are some steep gradients along the way. Within a mile of leaving East Croydon Station walkers find themselves in greenery and open spaces, through Lloyd Park, Littleheath Woods and Selsdon Wood. The trail continues into Surrey, over the North Downs, reaching its highest altitude of 858 feet on the approach to Oxted Downs and the Titsey Estate.

Inevitably, the M25 must be crossed, but that's just a brief irritation. The route soon climbs over the Greensand Ridge to Limpsfield Chart and pays a brief visit to Kent as it skirts Edenbridge. Then a grass airstrip is crossed on the way up to the ramparts of prehistoric Dry Hill Camp. The Vanguard Way is now deep into the Weald, and visits the large village of Forest Row on the way to a long stretch across the Ashdown Forest, truly one of southern England's wildest and most remote areas, passing Winnie the Pooh's 'enchanted forest' at Gill's Lap.

Now in East Sussex for the rest of the route, there's more Wealden farmland, skirting Buxted, through Blackboys and Chiddingly, and across the



Cuckmere Meanders, © 2009 Colin Saunders

South Downs National Park at Berwick, Alfriston, Litlington and Westdean. A long flight of steps is rewarded by a ‘wow’ moment, provided by a sudden panorama of the Cuckmere Meanders and the English Channel. But the scenery gets even better at Cuckmere Haven, where the view of the Seven Sisters is surely one of the country’s finest. Now in company with the England Coast Path for the final five miles, a climb over Seaford Head brings yet another magnificent sight, of the Sussex Heritage Coast towards Brighton. Then it’s all level walking to Newhaven, passing the quiet resort of Seaford and the atmospheric ‘lost village’ of Tide Mills.

A very detailed free route description can be obtained from vanguard-way.org.uk. And there’s a unique photoguide for smartphones, which can be downloaded free from Apple Apps or Google Play stores (search ‘VGW photoguide’) – it shows the route by means of arrows superimposed on photos of locations along the route.

The route was created by the Vanguard Rambling Club, which took its name from having been established in 1965 in the guard’s van of a ramblers’ excursion train. Club members managed and promoted the route for over 40 years, then in May 2022 they established the Vanguard Way Association, which welcomes anyone who has walked the route, or intends to, or would like to support this intrepid enterprise. Membership is just £7.00 a year, details from membership@vanguardway.org.uk.

Colin Saunders - Vanguard Way Working Party and WIM Member

Volunteer Focus



I am Auriel Glanville, and have volunteered at the museum for many years. In my past life I have worked as a PA/Photographer for David Redfern at his Covent Garden Studios, covering music gigs in and around London. He was a photographer for Ronnie Scott's Club, where many of his photographs can be seen. I also worked for ABC Television, Teddington Lock, London Weekend Television, the Thorndike Theatre, Leatherhead, the National Theatre, and my last full-time job was as Front of House Manager at the Polka Children's Theatre, Wimbledon, for 12 years.

At the time of leaving the theatre, it was discovered that I had breast cancer, so had a few years of treatment, making a complete recovery. However, it did give me a lot of time to think about what next and I became a part-time child-minder, and started looking at groups and organisations where I could be of help and became Co-ordinator of Merton Friends of the Earth for 25 years, Club Leader for the Wimbledon Common Nature Club for children, which has been running for 18 years, and also joined the Natural History Museum, South Kensington, the Wildfowl and Wetlands Centre, Barnes, the Royal Botanical Gardens, Kew, the South London Botanical Institute, Tulse Hill, the Merton Talking Newspaper, and the museum as a volunteer.

I started block printing at the museum with the late Peter Harris, becoming his tierer, helping school children make prints of William Morris and Liberty designs to take home with them. Mary Hart followed in Peter's footsteps and we worked together at the museum and in The Chapter House, Merton Abbey Mills, with families, until she retired. Mary was such a multi-talented person and something she did for me, when she discovered that I went out on climate change marches dressed as "The Statue of Taking Liberties", was to make props to go with my

dress that would withstand all weathers, previous to this I kept making these from cardboard which quickly fell apart after a day out protesting, particularly in the wind and rain. I will be forever grateful to her and will approach the Museum of London, when their new protest gallery opens, to see if they can include my outfit to join the 'Donald Trump Baby Balloon', already there, together with a newspaper cutting from the Evening Standard of myself by the balloon in Parliament Square. I will have a photograph of Mary to go with this explaining her contribution. However, I will keep everything for the time-being in case Donald Trump makes a comeback! I will be celebrating my 80th birthday in May and will be doing a skydive to raise funds for St. Raphael's Hospice, Cheam, in memory of my late partner Richard Mackie, the skydive after my birthday, naturally!!

So at the museum I am also back to my roots in photography, where I can use my skills to take photographs for the museum on their Arts Festival day and other occasions and send into the local press to help promote the museum, which is a real treasure in the community and where I have made such good friends.

Why is There a Small Wall in the River Wandle in Earlsfield?

If you have walked along the Wandle Trail in Wandsworth, you may have noticed the small wall that runs down the river in Earlsfield. The wall is visible from Riverdale Drive, or the bridges on Penwith Road, and Duntshill Road.

The small wall down the middle of the river is the remains of a cofferdam which was built in around 1960, as part of a flood control scheme. If you haven't noticed it, the photograph on the cover of this issue shows the wall as it passes under the bridge on Penwith Road in Earlsfield.

A cofferdam is an enclosure built within a river that is completely watertight, so that water can be pumped out of it. Since the river Wandle still needed to keep flowing, two channels were created down the middle, divided by a small wall. One channel allowed the river to flow through it, while the other was closed off at both ends, and the water pumped out.

Once the water had been drained from the first channel, the riverbed was dug out, and the walls were reinforced with concrete. When this was complete, the river was allowed to flow through the first channel, while the same work was carried out on the other half of the riverbed.

When the construction was finished, the river was allowed to flow through both channels again, but the wall down the middle of the river was never removed.

Why Was a Cofferdam Built in Earlsfield?

The part of the River Wandle that flows through Earlsfield was always prone to flooding. To solve this problem the old London County Council decided to lower the riverbed at this point, to increase the capacity of the river. In order to do this, construction equipment needed to be lowered onto the riverbed, which required the riverbed to be dry. The only way to achieve this was to build a cofferdam.

Does the Small Wall Have Any Purpose Today?

The wall itself doesn't do anything to prevent flooding. It's simply the remains of construction work that took place in the 1960s. The Environment Agency have advised they are happy for the wall to be removed from the Wandle, but this would be a considerable job to do.

This article is produced with the kind permission of Olivia Herlihy (Wandle News: <https://wandlenews.com/>)



Dates for the Diary

- Walks programme for 2023.
 - 15th April Mitcham Tram Stop to Morden Hall Park
 - 1st June Earlsfield Station to the Thames
 - 16th July Colliers Wood Tube to Merton Priory Chapter House
 - 19th August Merton Civic Centre to Morden Hall Park
 - 17th September Morden Hall Park to Merton Priory Chapter House
- Book via john.sheridan08@gmail.com
- Wandsworth Heritage Festival (20th May – 11th June): Talk 29th May at Earlsfield Library by WIM.
- 3rd June Croydon Green Spaces at Croydon Library
- 10th June New Exhibition (Sport Along the Wandle)
- 8th July Wandle Arts Festival
- 19th August Merton Heritage Discovery Day
- 9th September Mitcham Heritage Day
- 9th September until 24th September Wandle Fortnight
- 16th November WIM Annual General Meeting

Full details of the walks and events can be found on our website.



Accreditation Mentor: Emma Harper Welwyn Hatfield Museum Service.
Museum Advisor: Yvette Shepherd, Museum of London (Docklands).

The Wandle Industrial Museum, the Vestry Hall Annexe, London Road,
Mitcham, Surrey CR4 3UD. Tel: 020 8648 0127

Company No 01792482, Charity No 288655.

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OPEN: Every Wednesday 1 ~ 4 pm;  
Every Sunday 2 ~ 5 pm.  
(The Museum is closed Bank Holiday weekends)

The Museum is also open to schools and groups by appointment.

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Free Admission. Donations welcome.

The Wandle Industrial Museum would like to point out that the views of contributors to this newsletter are not necessarily the views of the Museum. We would be happy to give the right to reply to anyone who finds the content contentious.

All contributions and news items gratefully received and appreciated - please feel free to let us know at any time - telephone or write or email to office@wandle.org

You can find us on:

